

SDN  
A545  
8

U. S. Forest Service

# RESEARCH NOTE NO. ITF 8

INSTITUTE OF TROPICAL FORESTRY\*  
RIO PIEDRAS, PUERTO RICO

FOREST SERVICE - U.S DEPARTMENT OF AGRICULTURE

December 1966

## KILLING UNWANTED WEST INDIES MAHOGANY TREES BY PEELING AND FRILLING

By  
R. W. Nobles and C. B. Briscoe

### Summary

Peeling and frilling each killed approximately 70 percent of treated West Indies mahogany, but peeling killed a higher percentage of trees between 18 and 33 centimeters (7 and 13 inches) than did frilling.

Essentially all mortality occurred within the first 15 months following treatment.

### Resumen

Los arboricidas no pueden usarse para matar caoba indeseable cuando existen árboles productores adyacentes, debido a que el veneno se pasa del árbol indeseable al árbol deseable. Por lo tanto, es necesario utilizar otro método para matar los árboles indeseables en los rodales puros de caoba.

En Santa Cruz, Islas Vírgenes, se probaron dos métodos en rodales puros de caoba de hoja pequeña de 35 años: (1) pelado, o sea, removiendo una franja de corteza de 15 centímetros (6 pulgadas) de ancho alrededor del tronco, y (2) capado, esto es, haciendo con un hacha un corte sesgado como de 8 centímetros (3 pulgadas) de profundidad alrededor del tronco.

Tanto el pelado como el capado mataron aproximadamente el 70 porciento de la caoba tratada, pero en comparación con el capado, el pelado mató un porcentaje mayor de árboles entre 18 y 33 centímetros (7 y 13 pulgadas).

\* In cooperation with the University of Puerto Rico LIBRARY

JUN 27 1967

ROCKY MOUNTAIN STATION

Casi toda la mortalidad ocurrió durante los primeros 15 meses después de aplicado el tratamiento.

Poison applied to the stems of West Indies mahogany (Swietenia mahagoni Jacq.) can be translocated and/or transferred through root grafting to nearby stems of the same species; therefore, another method of killing unwanted mahogany stems is needed.

A natural, almost pure, 35-year-old stand of West Indies mahogany was selected in 1964 on the Estate Thomas Experimental Forest, St. Croix, Virgin Islands. The area is adjacent to, and comparable with, an earlier release project wherein many crop trees died after the stand was thinned by applying a solution of 2,4,5-T, in diesel fuel, to unwanted trees.

A total of 152 mahoganies were treated: 78 peeled and 72 frilled.

Peeling consisted of the removal of bark from a 15-centimeter (6 inch) band around the stem at about 1.2 meters (4 feet) from the ground, with little or no cambium removed.

Frilling consisted of hacking the bark with an axe to obtain a continuous 8-centimeter (3 inch) frill of bark at the same height. Again, little or no cambium was removed.

Of the 152 trees treated, 136 had a dbh between 5 and 15 centimeters (2 and 6 inches): 68 peeled and 68 frilled; and 16 were between 18 and 33 centimeters (7 and 13 inches): 10 peeled and 6 frilled.

Trees were inspected and tallied 15 months later.

Mortality for trees between 5 and 15 centimeters (2 and 6 inches) dbh was the same for peeling and frilling: 72 percent. For trees between 18 and 33 centimeters (7 and 13 inches) mortality was 70 percent for peeling and 50 percent for frilling.

Of the 46 trees still alive, 63 percent had green leaves but showed poor vigor, and 37 percent had dead tops but were sprouting from the stem below the peel/frilled area. The peeled ring of one 33-centimeter (13-inch) tree was bridged by adventitious roots.

Subsequent tallies in mid-1966 and early 1967 showed no appreciable increase in mortality.

As seen in Figure 1, peeling and frilling killed the same percentage of trees with dbh between 5 and 15 centimeters

(2 and 6 inches). Peeling killed a much higher percentage of trees with dbh between 18 and 32 centimeters (7 and 13 inches), but there were not enough such trees to determine whether the apparent difference was real.

Overall mortality was only 70 percent, less than expected.

Figure 1.--Mortality of West Indies mahogany trees following peeling and frilling.

